

What is claimed:

1. An accessory arch bar attached to a fixed orthodontic appliance by piggybacking on the labial side of an installed orthodontic appliance used during orthodontic treatment comprising:

a metal wire with a longitudinal body having opposing longitudinal ends, a cross-sectional diameter, and a longitudinal axis wherein the longitudinal body is straight which becomes curved when placed on the orthodontic appliance which creates a dental arch widening as the wire longitudinal body tries to return to a straight configuration when placed on an orthodontic appliance;

a cross-sectional diameter of .020 in. to .60 in.;

a longitudinal length similar to the length of an arch wire on a fixed orthodontic appliance; and

a tying means for attaching the accessory arch bar to an orthodontic appliance wherein a wire ligature or an elastomeric orthodontic module is used to attach the accessory arch bar to an orthodontic arch wire or directly to orthodontic brackets.

2. An accessory arch bar as in claim 1 wherein the ends of the accessory arch bar are formed at a right angle to the accessory arch bar long axis and directed towards the teeth when placed on the orthodontic appliance, which prevents irritation to the patient and dislodging of the ends of the accessory arch bar from the tying means

3. An accessory arch bar as in claim 1 wherein the composition of the accessory arch bar is comprised of metal compositions used for orthodontic arch wires.

4. An accessory arch bar wire as in claim 1 wherein the composition of the accessory arch bar is stainless steel.

5. An accessory arch bar as in claim 1 wherein the diameter of the accessory arch bar is .027 in..

6. An accessory arch bar as in claim 5 wherein the composition of the arch bar is Ti beta 3 wire which is super elastic and adjustable which is comfortable to the patient when placed on the orthodontic appliance, and yet moves the teeth quickly and effectively.

7. An accessory arch bar attached to a fixed orthodontic appliance by piggybacking on the labial side of an installed orthodontic appliance used during orthodontic treatment comprising:

a metal wire with a longitudinal body having opposing longitudinal ends, a cross-sectional diameter, and longitudinal axis and the longitudinal body is curved with a flat occlusal plane wherein the ends approximate or cross over each, wherein when placed on the orthodontic appliance a narrowing of the dental arch is produced;

a cross-sectional diameter of .020 in. to .60 in.;

a longitudinal length similar to the length of an arch wire on a fixed orthodontic appliance; and

a tying means for attaching the accessory arch bar to an orthodontic appliance wherein a wire ligature or an elastomeric orthodontic module is used to attach the accessory arch bar to an orthodontic arch wire or directly to orthodontic brackets.

8. An accessory arch bar as in claim 7 wherein the ends of the accessory arch bar are formed at a right angle to the accessory arch bar long axis and directed towards the teeth when placed on the orthodontic appliance, which prevents irritation to the patient and dislodging of the ends of the accessory arch bar from the tying means.

9. An accessory arch bar as in claim 7 wherein the accessory arch bar ends are looped towards the teeth when placed on the orthodontic appliance wherein the loop encircles the arch wire or an orthodontic bracket hook.

10. An accessory arch bar as in claim 7 wherein the composition of the accessory arch bar is comprised of metal compositions used for orthodontic arch wires.

11. An accessory arch bar as in claim 7 wherein the diameter of the accessory arch bar is .027 in..

12. An accessory arch bar as in claim 11 wherein the composition of the arch bar is Ti beta 3 wire which is super elastic and adjustable which is comfortable to the patient when placed on the orthodontic appliance, and yet moves the teeth quickly and effectively.

13. An accessory arch bar attached to a fixed orthodontic appliance by piggybacking on the labial side of an installed orthodontic appliance used during orthodontic treatment comprising:

a metal wire with a longitudinal body having opposing longitudinal ends, a cross-sectional diameter, and a longitudinal axis wherein the longitudinal body is formed with a flat occlusal plane into the desired dental arch form wherein when the arch bar is placed on the orthodontic appliance the

dental arch is formed to the desired shape, this is most effective when accessory arch bars with similar arch forms are used in the upper and lower jaws simultaneously which coordinates the bite and fits the upper and lower teeth together during the orthodontic finishing process;

**14.** An accessory arch bar as in claim **13** wherein the ends of the accessory arch bar are formed at a right angle to the accessory arch bar long axis and are directed towards the teeth when placed on the orthodontic appliance, which prevents irritation to the patient and dislodging of the ends of the accessory arch bar from the tying means.

**15.** An accessory arch bar as in claim **13** wherein the ends of the accessory arch bar are looped towards the teeth when placed on the orthodontic appliance wherein the loop encircles the arch wire or an orthodontic bracket hook.

**16.** An accessory arch bar as in claim **13** wherein the composition of the accessory arch bar is stainless steel.

**17.** An accessory arch bar as in claim **13** wherein the diameter of the accessory arch bar is .027 in..

**18.** An accessory arch bar as in claim **17** wherein the composition of the arch bar is Ti beta 3 wire which is super elastic and adjustable which is comfortable to the patient when placed on the orthodontic appliance, and yet moves the teeth quickly and effectively.

**19.** An accessory arch bar attached to a fixed orthodontic appliance by piggybacking on the labial side of an installed orthodontic appliance used during orthodontic treatment comprising:

a metal wire with a longitudinal body having opposing longitudinal ends, a cross-sectional diameter, and a longitudinal axis wherein the longitudinal body is configured with a flat occlusal plane into the desired dental arch form wherein the wire is curved either upwards or downwards away from the flat plane in the direction the occlusal plane of the teeth is to be moved, thus correcting a slant of an occlusal plane;

a cross-sectional diameter of .020 in. to .060 in.;

a longitudinal length similar to the length of an arch wire on a fixed orthodontic appliance; and

a tying means for attaching the accessory arch bar to an orthodontic appliance wherein a wire ligature or an elastomeric orthodontic module is used to attach the accessory arch bar to the orthodontic

arch wire or directly to the orthodontic brackets.

**20.** An accessory arch bar as in claim **19** wherein the ends of the accessory arch bar are formed at a right angle to the accessory arch bar long axis and directed towards the teeth when placed on the orthodontic appliance, which prevents irritation to the patient and dislodging of the ends of the accessory arch bar from the tying means.

**21.** An accessory arch bar is in claim **19** wherein the composition of the accessory arch bar is comprised of metal compositions used for orthodontic arch wires.

**22.** An accessory arch bar wire as in claim **19** wherein the composition of the accessory arch bar is stainless steel.

**23.** An accessory arch bar as in claim **19** wherein the diameter of the accessory arch bar is .027 in..

**24.** An accessory arch bar as in claim **23** wherein the composition of the arch bar is Ti beta 3 wire which is super elastic and adjustable which is comfortable to the patient when placed on the orthodontic appliance, and yet moves the teeth quickly and effectively.

**25.** An accessory arch bar attached to a fixed orthodontic appliance by piggybacking on the labial side of an installed orthodontic appliance used during orthodontic treatment comprising:

a metal wire with a longitudinal body having opposing longitudinal ends, a cross-sectional diameter, and longitudinal axis wherein the longitudinal body is configured to the shape of the desired dental arch and curves upwards or downwards from the occlusal plane as the wire proceeds towards the front of the mouth wherein the upper front teeth are moved correcting an open anterior bite or a deep over bite of the anterior teeth.

a cross-sectional diameter of .020 in. to .60 in.;

a longitudinal length similar to the length of an arch wire on a fixed orthodontic appliance; and

a tying means for attaching the accessory arch bar to an orthodontic appliance wherein a wire ligature or an elastomeric orthodontic module is used to attach the accessory arch bar to the orthodontic arch wire or directly to orthodontic brackets.

**26.** An accessory arch bar as in claim **25** wherein the ends of the accessory arch bar are formed at a right angle to the accessory arch bar long axis and directed towards the teeth when placed on the orthodontic appliance, which prevents irritation to the patient and dislodging of the ends of the accessory arch bar from the tying means.

**27.** An accessory arch bar as in claim **25** wherein the composition of the accessory arch bar is comprised of metal compositions used for orthodontic arch wires.

**28.** An accessory arch bar wire as in claim **25** wherein the composition of the accessory arch bar is stainless steel.

**29.** An accessory arch bar as in claim **25** wherein the diameter of the accessory arch bar is .027 in..

**30.** An accessory arch bar as in claim **29** wherein the composition of the arch bar is Ti beta 3 wire which is super elastic and adjustable which is comfortable to the patient when placed on the orthodontic appliance, and yet moves the teeth quickly and effectively.

**31.** A method of using an accessory arch bar for placing orthodontic force upon the teeth essentially consisting of:

forming a longitudinal arch bar into a pre-determined shape which produces orthodontic movement attached to an orthodontic appliance;

placing the accessory arch bar adjacent to the cheek side of an arch wire of an orthodontic appliance;  
and

ligating the accessory arch bar to the orthodontic appliance.